



the astrogram

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National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California



VISITORS FROM JAPAN . . . Graduate students and professors representing three leading universities in Japan toured the Center last week with Charles C. Kubokawa (left) of the Man-Machine Integration Branch as their guide. The students were from Waseda University, Musashi Institute of Technology, and Tamagawa University, and came to the area to study aerospace research and computer technology. Mr. Kubokawa, a human factors engineer, explained the NASA-Ames concept of STOL (short take-off and landing) operations and its potential as a means of relieving urban transportation problems. Here he points to STOL landing sites on the visual flight attachment which simulates the countryside and is used with the Flight Simulator for Advanced Aircraft and other aircraft.

Ames Scientists at Microbiology Congress

Ames research scientists from the Life Sciences Directorate are participating in the Tenth International Congress for Microbiological Societies.

Dr. Harold P. Klein, Director of Life Sciences, was invited to give a paper entitled "Some Problems Involved in the Search for Extraterrestrial Life" at a Seminar on "Microbial Detection on Mars," chaired by Dr. Richard S. Young, NASA Headquarters.

Other Ames papers given this week are: "Mode of Action of Salts on Catalase from Halobacterium Cutirubrum", coauthored by Dr. Janos K. Lanyi and Joann Stevenson, Biological Adaptation Branch; "Fixation of Carbon Dioxide by Microorganisms: An Experimental Measurement for Life Detection", by Vance I. Oyama, Chief of the Life Detection Systems Branch, and Bonnie J. Berdahl, of the same

branch; and "Inhibition of Protein Synthesis in Pseudomonas-saccharophila by Various Partial Pressures of Oxygen and Nitrogen", authored by Dr. Ho Lee Young, Experimental Pathology Branch, and Linnea McDonald, Miss McDonald, a Homestead High School student, has been participating in the Ames Space Biology Research Program for gifted high school student scientists from the local area. The program is conducted by members of the Life Sciences Directorate.

Two additional papers by the staff of the Life Detection Systems Branch presented by Dr. Melvin P. Silverman are: "A Facility for the Isolation of Viable Organisms from Extraterrestrial Samples", coauthored by Edward L. Merek; and "Search for Viable Organisms in Apollo 11 Lunar Sample", authored by Mr. Oyama, Mr. Merek and Dr. Silverman.

Ames Scientist Discovers Tool To Unravel Structure of Protein

Ames Research scientist Dr. J. Ken McDonald, Biochemical Endocrinology Branch, has discovered what appears to be one of the most promising tools yet found for determining the structure of the body's vital proteins.

The new tool is one of the body's enzymes, which has the unique ability to take a protein molecule apart one piece at a time. It has promise for many direct medical and biological research applications.

For example, it could be used to determine the amino acid sequence of a wide variety of immunoglobulins, the body's main defense against disease. Until now, this has been so difficult it has not yet been accomplished.

Dr. McDonald, a biochemist, discovered the practical use for the enzyme, named DAP-I (dipeptidyl aminopeptidase), while studying the possible role of tissue enzymes in the body's response to weightlessness. Tissue atrophy (a wasting process) is a potential hazard to men exposed to weightlessness for prolonged periods.

DAP-I can be used to find exactly the primary structure of many proteins.

Protein is the most common solid material in the body. Protein

SECOND CALL

PICTURES WANTED FOR:

Page from the Past

"The Page from the Past", a summertime feature in "The Astrogram", continues to interest members of the Ames staff - so we have decided to add to our collection and have planned a new series of pictures for a forthcoming issue.

Any recognizable photograph (no baby pictures, please) taken during the period 1940-55 would be appreciated. It can be a picture taken anywhere in the world - employment at Ames during that period is NOT a requirement.

The response to the first call for pictures has been excellent, but there is space for a few more and we'd like it filled. Send prints or snapshots to "The Astrogram" office, Mail Stop 241-4.

molecules include the all-important blood-clotting factors, many hormones, disease fighting antibodies, muscle structures, and the enzyme catalysts known to regulate a multitude of chemical reactions in the body.

Each protein molecule is one long chain of amino acids. The new enzyme can determine the structure of a protein molecule by taking its molecule chain apart one link at a time.

Only about 20 amino acids exist in nature, but any number and combination of them can be linked together to form the various amino acid chains that make up the different proteins of the body.

In a purified solution of any particular protein, every molecule chain is identical. DAP-I starts at the head of the protein chain and removes two amino acids at a time, in sequence. The amino acid pairs, called dipeptides, can be identified. The order in which they are released in time reveals their sequence in the original protein molecules. Dr. Paul X. Callahan and Mrs. Judith A. Shepard, both of the Biochemical Endocrinology Branch, are presently developing the methodology for applying this enzyme to the study of protein structure.

The number of amino acids in a protein chain ranges from 140 for the oxygen-carrying hemoglobin molecule to around 10,000 for several disease fighting antibodies.

Enzymes are the super catalysts which speed up and often control the chemical reactions of the body. DAP-I is one of thousands of enzymes in the body. "The discovery of the amino acid sequence in a protein molecule is the most fundamental part of finding its exact structure," says Dr. McDonald. Of great importance also is the exact configuration in which the chain winds and loops around itself. Biologists have made considerable progress in finding this chain configuration with X-ray methods.

The other members of the Ames team from the Biochemical Endocrinology Branch working with Dr. McDonald include the branch chief Dr. Stanley Ellis, Benjamin B. Zeitman, and Thomas J. Reilly.

Thirty-Eight Students Work at Ames Under N.Y.C. Summer Employment Program

... by Jeanne Richardson

For some young men and women, the Neighborhood Youth Corps (NYC) means an opportunity to earn the income they need to stay in school or to go back to school. Thirty-eight students from three San Jose high schools accepted the opportunity offered by the NYC and Ames for summer employment by reporting to work at Ames on June 22. They came from Overfelt, Andrew Hill, and Silver Creek High Schools with two things in common, a desire to stay in school and a family income within a specified range.

The students are from 15 to 17 years old, and either freshmen, sophomores or juniors in high school.

Every effort is made to match the student's job with his academic interests. In the early spring of this year a survey was made at Ames to determine how many and which jobs were available for summer employment. This information was then relayed to the three high schools. Through the counselors at the schools, the students were informed of the available jobs and asked to list their preferences. The Employment Branch at Ames then matched, as closely as possible, the jobs with the student preferences. Except for one or two exceptions, the students were satisfied with their assignments.

ASSIGNMENTS

Their assignments cover a wide variety of interests and projects. For instance, NYC students are in laboratories, the animal colony and the Facilities Services Branch.

Many of the girls are secretarial assistants in administrative offices. Other students are engineering and math aids or draftsmen. Although the jobs provide the students with preferred work experience, due to the youth of the students, it is not necessarily career oriented.

VOCATIONAL DAY

In order to familiarize the students with as many career choices as possible, Ames set aside July 29 as Vocational Day. NYC students at Ames attended the day-long program at the Center.

The day began with an introduction by NYC counselor Mike Burke and a briefing on Federal jobs by Harold ("Tut") Gerdes, Chief of Ames Employment Branch, followed by an Apollo 12 film. The students then chose two vocational information lectures to attend. The lectures were intended to provide background information for the student in a vocation of interest to him. The sessions were conducted by Ames personnel who are professionals in the various vocations on which they lectured. For instance, Kathi Vitiello, of the Ames Training Office, presented an excellent briefing for the girls interested in the secretarial field. Charles Neaves, Chief of the Machine Branch gave an interesting lecture on the machinists profession. Photography was well represented by Dino Ponseggi, Photographic Technology Branch; Electronics Engineering by Salvador Rositano, Research Instrumentation Branch; Design Engineering by Mladen Chargin, REE Branch;



BASIL GURUWAIYA (center), NYC summer employee in the Research Instrumentation Branch is pictured with his supervisor, James P. Connolly (left), and NYC summer counselor, Mike Burke (right). Basil, an NCAA champion wrestler, will attend California State Polytechnic College in September on a wrestling scholarship. Also very talented in electronics he is pictured demonstrating the voltage regulator he constructed while at Ames.

metal work by Theodore Foster, Metals Fabrication Branch; automotive mechanics by Ralph Malloy, Mechanical Services Section; and computer operators by James Jeske, Programming Branch. After the lectures the students gathered on the lawn for lunch, then were escorted on a tour of Center facilities.

COUNSELOR

Mike Burke, the NYC summer program counselor at Ames is also the head of the NYC program at Oakgrove High School, where he is a full-time counselor during the school year. Mike, who received his B.A. and M.A. degrees in English from Notre Dame, taught for two years in California while returning to school (Santa Clara University) for his M.A. in Guidance and Counseling. He would like eventually to go into education administration, but enjoys his present profession. He said, during an interview, that he particularly enjoys the close individual contact with the students. Mike was very enthusiastic about the NYC students he has worked with this summer.

An awards assembly was held August 12, the students' last day at Ames. Savings bonds were given to those students who showed out-

standing meritorious achievement. Many of the students will return next summer under the same program or as Summer Aids. Upon graduation from high school, when the student no longer qualifies for the NYC program, he may apply for the Summer Aid program.

Both the Summer Aid and the NYC programs are Federally-funded. The Neighborhood Youth Corps was established as a work-training program under Title I-B of the Economic Opportunity Act. It is part of the U.S. Department of Labor's Manpower Administration. The purpose of the NYC program, of which the summer program is a part, is to make young men and women over 16 and under 22 more employable, to encourage youth to stay in school and to make education more readily available.



NEIGHBORHOOD YOUTH CORPS Student Employees (from 1 to r) Margaret Hay, JoAnn Bardo and Delores Guruwaiya are pictured with their supervisor Gustave Brunner (second from left) as they reduce film data and check the computation they have just completed on the electronic calculators. The girls worked in the Flight and Systems Simulation Branch, as part of the NYC summer program which ended August 12.

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Reporters NASA Employees

Deadline for contributions:
Thursday between publication dates

Personnel Corner

EEO ACHIEVEMENT RECOGNITION

In an effort to encourage and recognize outstanding performance in fostering equal employment opportunity in the Federal Government, provisions have been made for recognition under the Federal Incentive Awards Program.

Awards will be given to persons who have achieved outstanding results through unusually effective leadership, skill, imagination, innovation, and perseverance in extending equal employment opportunities to Federal employees.

The purpose of the awards is: ---To emphasize the policy of the U.S. Government to provide equality of opportunity for all citizens in Federal employment as reaffirmed and strengthened by Executive Order 11478 of August 8, 1969.

---To demonstrate the value which management places upon employees, supervisors, and managers who actively and effectively contribute to equal employment opportunity.

---To give due and proper honor and distinction to those who, recognizing the right of equal opportunity for all, excel in providing this opportunity to others seeking employment or already within the Federal service.

---To effectively give impetus to the equal employment opportunity program by publicizing the superior accomplishments of the award recipients and the impact and positive effect these accomplishments have had upon others seeking equal opportunity.

Persons at all levels of supervision and management who clearly excel in promoting equal employment opportunity within their organization are eligible for consideration.

Recognition for superior accomplishments in fostering equal employment opportunity must be based on objective evidence which indicates that the supervisor has excelled in such job factors as: (1) motivating employees through direct encouragement and assistance to develop their full potential and utilize their skills to the maximum extent; (2) achieving effective employee utilization; and (3) demonstrating sensitive treatment of all employees.

Persons would also be eligible for such awards whose work is not specifically in equal employment opportunity, but who through superior accomplishments in training, recruitment, or other activities advance equal employment oppor-

AIAA Goes Wine Tasting

Members of the San Francisco Section of the American Institute of Aeronautics and Astronautics (AIAA) are invited to attend the wine tasting social hour to be held in conjunction with the AIAA 8th Electric Propulsion Conference scheduled August 31 - September 2.

The Wine Institute has arranged for three distinguished California wineries to present their vintages: Louis M. Martini, Beaulieu, and Charles Krug. In addition there will be an array of cheese, bread, and crackers provided by the Marin French Cheese Co.

The wine tasting will be held at the Stanford Faculty Club on Tuesday, September 1, from 5:30 to 7 p.m. Tickets are \$2 per person (to cover the cost of using the Faculty Club). For reservations Call Val Watson, ext. 2696, or 732-4788 (home).

SUMMER BOWLING

... by Dennis Riddle

The standings of the All-Ames Summer Bowling League as of August 4:

TEAM	WON	LOST
Dirty Rugs	38	14
Stars	28	24
Vikings	26	26
Number Ones	25	27
Bowl'n Bums	21	31
Raiders	18	34

Congratulations to Helen Bolt on her nice game. She bowled a 168, 73 pins over her average. Games and series bowled August 4 were Howard Garrison, 201/541; Frank Cleary, 526; Dick Parker, 510; and Jan Konrath, 509.

The league officers are working on trophies and thoughts for a season-end pizza banquet. Any inputs from the league bowlers are desired. Call Dennis Riddle at 2241.

tunity in the Federal Government.

Awards may also be made to employees for excellence in fostering the Government's equal employment opportunity program through non-Federal activities.

Recognition for superior accomplishments in equal employment opportunity should be made an integral part of the agency's incentive awards program, according to the U.S. Civil Service Commission. Instructions and guidance concerning this recognition should be provided by the headquarters of the agency.

TRAVEL CLUB

The first big bash of the season will be given by the Travel Club at the Novitiate Winery, College and Prospect Avenue, Los Gatos on August 21. It will combine the delicate art of wine tasting with the fun and frolic of a barbecue. The tour will begin at 5:30, followed by the wine tasting at 6:30, dinner at 7:30 and of course, an aperitif after dinner. The menus of the dinners are: 12 oz. New York steak, tossed green salad, barbecue ranch beans, rolls and butter, ice cream cups, coffee and wine. This dinner is \$4.50, for half a chicken it is \$3.

For information call Jeanne Clemson, ext. 2003, or Janet Konrath, ext. 2009. August 19 is the deadline.

Stearman Club Forms

A Stearman, Aerobatic Airplane Club is now forming. There are approximately 10 members, beginners are welcome. Instruction is available. Interested? Call Lou Williams, 248-2481.

Special Discounts Offered to Personnel at Ames

NEW ITEMS:

FORTUNE MAGAZINE ... is being offered to Ames employees on a special introductory basis of 21 issues for \$14.75, or 29 issues for \$19.95. In addition to the low rate, a 20-page compilation entitled "Fortune's Guide to Personal Investing" is being included for this year's readers. For details contact Dan Mason, Suite 214, 480 N. First Street, San Jose, Tel. 298-5433.

ALL ABOARD! CLUB ... Membership cards are now available in "The Astrogram" office for special rates on the Roaring Camp and Big Trees Narrow Gauge Railroad, plus a reduction on accommodations at Holiday Inn of Santa Cruz.

"Thank You" Note

"Dear Friends,

My hearty thanks for the wonderful gifts presented to me at the reception marking my retirement from Ames.

The English bicycle is the envy of the young set (and the not-so-young set) in my neighborhood, and my golf clubs are no longer a burden in the good-looking club carrier.

The travel books on the South Pacific are a great help in planning "where to go", "what to do", and "what to see" on my first big trip.

I shall cherish these gifts as remembrances from the wonderful people with whom I've had the privilege of working.

Sincerely yours,

Helen Davies

P.S. Loved those "gag" gifts which were so aptly chosen! That gift selection committee knows me too well!"

Fleet Reserve Holds Convention

The 14th Annual Convention of the West Coast Region of the Fleet Reserve was held August 1-2 in Fresno.

Ames representatives included Robert C. Hinton, Machine Branch, President of Santa Clara Branch 101, who led a delegation representing over 800 members -- largest in the West Coast Region. Delegates with Mr. Hinton were John F. Estvanik, Metals Fabrication Branch, Senior Vice President of Branch 101, and Ames retiree Martin Margolis, Past Regional President 1968-69.

Charles E. DeMarco, Electronic Instrument Branch, a member of the Eden Branch 241 in Hayward, is the new president-elect of the West Coast Region with a membership of 6000. Installation is in September.

Founded in 1924, the Fleet Reserve Association is an organization of active duty and retired enlisted career personnel of the U.S. Navy and the U.S. Marine Corps. There are now over 80,000 members in the organization.

FAST-PITCH SOFTBALL

... by Bruce Ganzler

The Ames Fastpitch Softball Team dropped a close ballgame by a score of 4 to 2 against ABC Plumbing. Remaining games to be played at McKelvey Field in View will be at 7 p.m. on Aug. 17, 24, 26 and Sept. 2.

BOX SCORE				
	POS	AB	R	H
R. Duenas	RF	2	0	1
B. Holmes	RF	1	0	0
E. Lampkin	LF	2	0	1
S. Kanally	LF	1	0	0
M. Green	1B	1	0	0
R. Hedlund	CF	2	0	1
G. Alger	SS	2	1	0
B. Ganzler	2B	2	1	1
B. Bell	C	3	0	0
J. Myers	3B	2	0	1
B. Corbett	P	3	0	0
		21	2	5

Ames Airings

... by Jeanne Richardson

JESSIE GASPAR (Programing Branch) and Roanne Doll, a teacher at Stanford Elementary School in Palo Alto, spent six weeks recently touring the Orient. Their first and longest visit was in Japan.

The girls said they spent one day at Expo '70 and enjoyed it, but they didn't want to return. The Japanese definition of "crowded" seems to be a little different from ours. The average daily attendance for Expo '70 is 290,000. That's a lot of crushed toes.

At the Expo, and most everywhere they went, Jessie and Roanne were questioned about the United States. An elderly lady, bent almost in two from years of carrying heavy burdens asked the girls if the women her age in the U.S. were bent as she was. A man on one of the several trains they took, asked them if there really were several chicken farms in California. The students, Jessie said, hung about the hotels trying to meet American tourists. They want to practice speaking English and that seems to be the best method.

They visited Hiroshima on the main island of Honshu and found there was very little evidence left of the bomb in Hiroshima or Nagasaki. Nagasaki is on the island of Kyushu, where they visited the pearl farms.

A couple of days were spent in T'aipei, Taiwan, then, flying south of Viet Nam and Laos, they landed in Bangkok, Thailand. From there they ventured inland to Chiang Mei, in North Thailand. I don't know how the girls felt, but that seems too close to ye ole war for comfort. It must not have frightened the hearty travelers, because they next landed in China.

Hong Kong, they said, is a woman's paradise for buying jewelry. Only the best is sold there, very little costume jewelry, and it's all beautiful.

Whilst strolling along a street in Kowloon (that's just a fortune cookies throw across the bay from Hong Kong, for those of you not familiar with mainland China), they found an interesting Arts and Craft shop. The girls first noticed the frightened stares of the clerk, then the Mao Tse Tung button on his mandarin collar. Then, glancing up, the girls found the brown eyes of Mao himself staring down at them. Larger-than-life posters of the well known author hung in prominent spots around the shop. Filling the spaces between these posters were several artistically done anti-

American slogans. Squinting their eyes, and trying to look as calm as possible, the girls left, to the great relief of the clerk.

All in all, the girls enjoyed themselves completely and made it home safely.

DR. & MRS. BILL MERSMAN (Problem Definition Analysis) flew to Glacier Bay, Alaska, not long ago. They boarded a boat there and took a day's cruise through Glacier National Monument. In the Monument is the largest collection of active glaciers in the world. The glaciers move an average of one-half-mile per year. Dr. Mersman said this and the absence of telephones was his favorite part of the trip.

From Glacier Bay the Mersmans took a four-day cruise through an inland passage which wove its way through hundreds of small islands. Dr. Mersman said he saw "about thirty billion" Spruce trees on this cruise, which was partly through the territories of Alaska and Canada.

Before the cruise ended in the bay of Prince Rupert, Canada, Dr. Mersman managed to get a fantastic picture of a spouting whale jumping, in mid-air. It seems whales like to spend their summer vacations in Alaska.

The Mersmans also saw Juneau, Alaska, where the nights are two hours long in summer.

CLEVE FOSS (Administrative Operations) and his wife, Leilani, spent three weeks in Hawaii recently. It was a reunion with family, friends and the islands for Leilani. She was born in Hawaii, then left during World War II. She found Waikiki built up, but she had expected this and was not at all disappointed.

On the "big island" of Hawaii, the Foss' visited Leilani's uncle an expert on Hawaiian history.

The Foss' toured the other four islands as well, and particularly enjoyed the "Flower Island", Kauai and the beach on Maui.

A grandson has been born to E. W. (Bud) HULT (Measurement Sciences Branch, and his wife, Helen. The parents are William and Vicci Hult. Seven and one-half pound, 21 inch Emrick Ridley Hult, was born August 6.

JEROME PEARSON (Structural dynamics) and wife, Jeannie, having had their last fling in Hawaii at Easter, have settled down to raise a family and started at 7:04 a.m., July 15 with a son, Edmund Burke, who weighed 6 lb. 10 oz. He has a slight touch of his mother's red hair, in the brown.

GOLF

... by Kay Bruck

By command of Major Chairman Ed Stepnoski and Assistant Chairman Fred Carpenter an attack was rendered on Sunol (Palm) Golf Course last Saturday in three waves. The victorious leaders of each wave were commended for their exemplary performance as follows:

First Wave- Ruben Ramos, first place; John Hawkins, second place; and Bob Carlson, third place.

Second Wave- Ron Denison, first place; Paul Kutler, second place; Clark White and Norm Martin tied for third place.

Third Wave- John Estvanik, first place; Vance Oyama, second place; and Ed Tischler, third place.

Prizes for the best mortar shot (closest-to-the-hole) went to Al Petretti (for the men) and Ruth Richardson (for the ladies). The longest howitzer shot (longest drive) went to Bill Fietzer (for the men) and Yvonne Sheaffer (for the ladies).

Everyone did enjoy themselves according to the command given by the Co-Chairmen. The next regular tournament is at Pasatiempo on September 12.

SOFTBALL

... by Grantland Wheat

The Mighty Instrumentals decimated the Fighting Pumas on August 4, and avenged an earlier loss to the Pumas by an identical 3-1 score.

In earlier games, the Pumas bombed Space Science 22 to 4 on July 29. Homeruns by Clark White and D. Smith led the 21-hit barrage. July 28, Aero came from behind to clobber RFE 16-8. And Space Science gained a forfeit from RFE on August 6.

Second - half standings through August 7 are:

	W	L	Pct.
Mighty I's	4	0	1.000
Fighting Pumas*	3	1	.750
TGD	2	2	.500
Aero	2	3	.400
RFE	1	3	.250
Space Science	1	4	.200

* First-half champions.

BOWLERS WANTED

The All- Ames Bowling League will be opening its winter season at Moonlite Lanes on September 8 at 6:20 p.m. We still need teams and/or individuals. Please sign up as soon as possible, this will be our last call for bowlers this year. Call Dennis Riddle, league president, at 2241.

WANT ADS

The Astrogram's ad section is provided as a personal, non-commercial service to Ames employees. Advertiser must be identified by name, extension and organization. The name may be left out of the ad but is needed for records. Ads must be submitted in writing to The Astrogram, N-241-4, by Thursday, a week before publication. The advertiser's home telephone number must be provided as a point of contact except in carpool notices.

AUTOMOBILES

For Sale-1964 3-speed Falcon Transmission in perfect condition, \$25. Phone 243-1392.

For Sale-1968 Chev. Fleetside, P.U. 1/2 ton 8ft bed, V 8, 307, P.B., P.S., Air condition 3 SPD. 5 year warranty in effect. R. Krause, 967-5648.

For Sale-1964 red MGB. Excellent Condition! Low mileage. \$1100. Call 377-1311.

For Sale- 1959 Jaguar XK 150, HT coupe 3.4 liters, 210 HP, overdrive, disc brakes, \$795, Call 323-7026.

For Sale-1961 Oldsmobile 88, Holiday Coupe, only 61,000 miles. Looks and operates perfectly. \$375 J.E. Lepetich, 948-8002.

For Sale-1967 Pontiac GTO, AT, PS, RH, 40,000 miles, \$1550. Call 867-2748.

For Sale-1966 Plym. Fury, 383, 2-door, HT, P/S P/B, R/H, Automatic Excellent Condition. \$1175, 968-6026.

HOUSING

To Lease- Campbell, 4-bedroom, 2-bath, Sep. family room, 2-car garage covered patio. Immaculate condition call Action Realty, 379-0133.

For Sale- Late model 24x60 Mobile Home- top quality, excellent adult park, three minutes from Ames Completely furnished 19,500- by appointment only 734-2539.

For Rent- Vacation cottage, Sunnyside area of Tahoe 2-bedroom, walk to beach or marina, \$90 per week, \$40 per weekend. Call 328-4642.

For Sale or Lease- Beautiful Glenmoor Gardens in Fremont. 3-bedroom, 2-bath, all electric kitchen, separate family room with fireplace, carpets & drapes. Large lot, 85x110. Free membership in swim and racquet club, near all shopping & schools, sacrifice at \$26,950 with excellent financing or lease at \$265 a month- possible option to buy. Al Ghan, 269-5578.

MISCELLANEOUS

Driving to Texas- middle of August, want couple to share ride, Phone A. Bogart, 867-3347.

Wanted-Portacrib, jumpswing and stroller, 258-1676, after 5 p.m.

Car Pool- 7:30 a.m. shift, Williams Road, Eden Avenue area of San Jose, contact Jim Connolly, ext. 2293.

Wanted-Join or start Car Pool, vicinity of Bollinger Road and Blaney/Miller Avenues, Cupertino. Call Chet Shapero, Ext. 2066.

For Sale- 3/4 H.P. Jucuzzi, Jet Deepwell Pump, \$75, good condition, 967-6506.

For Sale-Bonanza Mini-bike with Honda 90 engine and compression release. \$200, call Frank Thompson, 379-2385.

For Sale- AKC, German Shepherd puppies, will make good watch dogs. Safe with children. Call 734-2121.

For Sale-"SCAT" Sail Boat, lift, sloop-rigged Catamaran. Can be car-topped. \$280 or trade for motorcycle or car of equal value. Call 797-3472, after 5 p.m.

For Sale-1967 Silverstone Silver Sentry large screen TV Maple colonial console. Remote control. Last serviced May 18, 1970. Black and White. Call 262-1370, Price \$100.

Planning a vacation? - Responsible, young military wife will live in home, babysit pets, and water lawns. Call Loretta after 5 p.m. 244-2437.

For Sale-Burmese kittens, 3 months old, with papers, and shots, box trained. 948-7183.

For Sale-1957 Pontiac star chief, 2-door hardtop. R & H, power steering, auto. trans., good tires, clean, good condition. \$195. Call Eugene Bacons, 293-4790.

For Sale- Suzuki 150 Motorcycle, 1967, 8600 miles. \$225, must sell, call 245-2165 after 5:00 p.m.



National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California



AMES... will obtain building maintenance services this year from Dependable Janitorial Services of Oakland under a special contracting provision designed to help firms operated by members of minority groups. Dr. Hans Mark, Ames Director; Moses Jacko, head of Dependable; and Donald McLarnan, Regional Director of the Small Business Administration, are shown at the contract signing. Dependable won a similar contract last year to clean windows at the Center as low-bidder over a number of other firms. This year the window-cleaning contract has been awarded to the firm under a special Small Business Administration provision. This provision allows government contract awards to minority firms without a competitive bid -- if the firm is qualified and the price is reasonable. The negotiated price of \$30,000 for the work this year is the amount bid by the next-to-lowest bidder last year, despite the fact that this year Ames has added a building.

Ames to Host Space Station Utilization Conference

Ames will host 450 scientific and technical leaders invited by NASA to attend a Space Station Utilization Conference, Sept. 9 and 10.

The invitees are being assembled to participate in the planning of the Earth orbital manned space station, a multi-disciplined research and applications laboratory to be operated in space for 10 years. Launching of the space station is planned for the 1976-1978 period.

Participants from Ames include the Director, Dr. Hans Mark, who will welcome the conferees, and Dr. Michel Bader, Chief of the Airborne Science Office. Dr. Bader will make a presentation entitled "The NASA-Ames Research Center Airborne Research Program Management."

In the invitation to the conference, NASA stressed the necessity for immediate participation in the planning process to realize the full potential of the space station.

NASA is inviting to the conference only those who are prepared to become actively involved in the planning effort. Panels will be formed on a disciplinary basis to screen thoroughly all potential space station uses. The recommendations of these panels will provide material for a related study in the summer of 1971.

A fundamental goal of the space station program is to provide in orbit a diversified research and experimental facility affording a wide potential for use by the broadest possible segment of the nation-

al and international community. The conference invitees include 60 representatives of foreign universities and industrial firms.

As currently planned, the space station will include a number of laboratories to support a wide variety of scientific and technological investigations. It would perform in space a role similar to that of oceanographic ships at sea or the research station in the Antarctic.

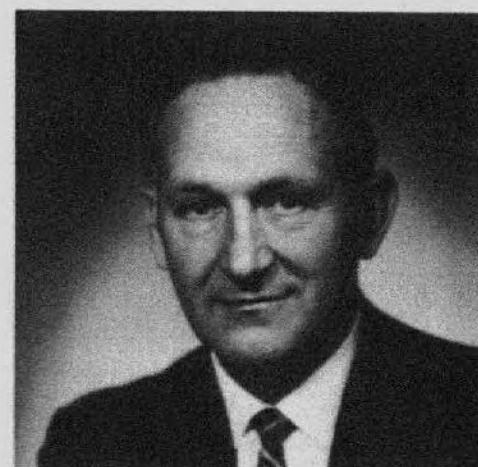
The flight crew and scientific staff of the space station will number about 12 initially, including experimenters chosen without the necessity for the rigorous training now required for astronauts. It will operate with a fully reusable Earth-to-orbit shuttle for the transfer of crew and equipment.

Angelo Giovannetti to Participate in 1970-71 Stanford-Sloan Program

Angelo Giovannetti, Jr., Chief of the Research Facilities and Equipment Division, will participate in the 1970-71 Stanford-Sloan Program. This Program, to which Ames has nominated four Fellows in the last five years through competitive selection, provides an opportunity for a limited number of government and business executives with demonstrated senior management potential to exchange experience and to study new concepts in management. This year the group includes thirty Fellows who represent different industries, governmental organizations, geographical areas, and functional fields.

The fellowships are considered one of the highest honors for young executives, offering a rigorous nine-month course of study geared to individual development. During this time a combination of classroom study, directed reading, research, seminars and field trips, give the Sloan Fellows an unique opportunity to study new concepts and developments in business, develop a top management perspective, and broaden their intellectual horizons.

The Program provides an unusual opportunity for practical operating business executives to study together and to share experiences under the guidance and leadership of outstanding professors. Each fel-



ANGELO GIOVANNETTI

low has the opportunity for individualized study in selected fields of managerial education according to his needs.

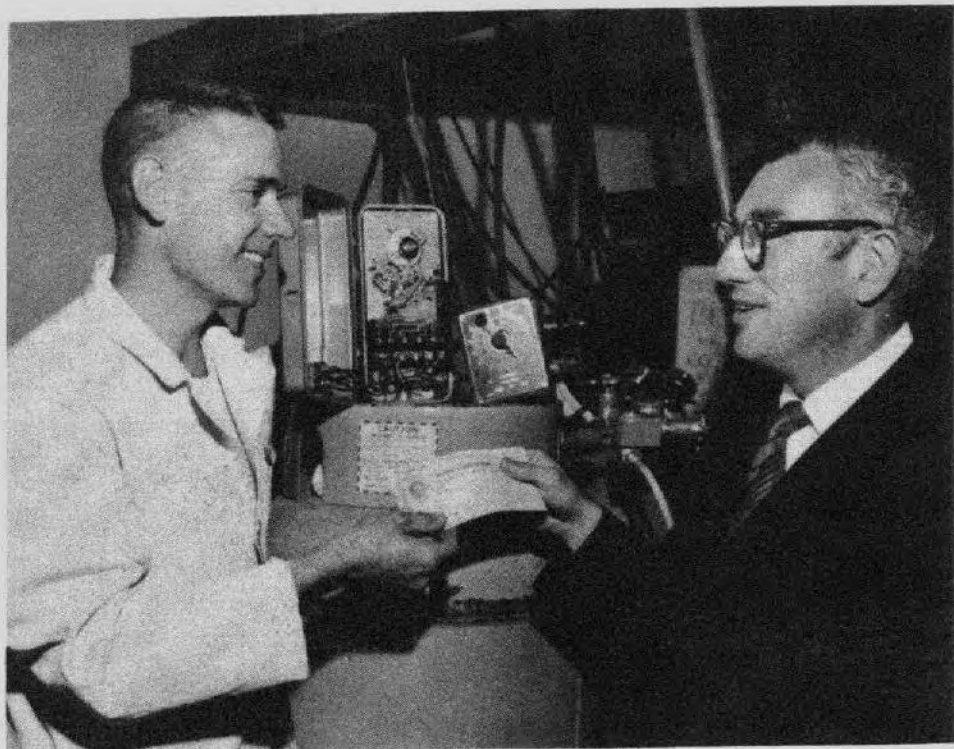
As Chief of the RFE Division with a staff of 193 engineers and technicians, Mr. Giovannetti plans and directs a program to design and supervise the construction and development of experimental research facilities and equipment to meet the needs of the Center's research programs. In talking about his forthcoming year of study Mr. Giovannetti said, "I have become increasingly aware of the need for furthering my managerial capabilities... I am sure that participation in the Stanford-Sloan Program will improve my ability to cope with problems and at the same time broaden my overall perspective."

Prior to his present assignment, to which he was appointed in 1966, Mr. Giovannetti was Chief of the Research Facilities Engineering Branch from 1955. He began his Federal civil service career as a Mechanical Engineer at Ames in 1948.

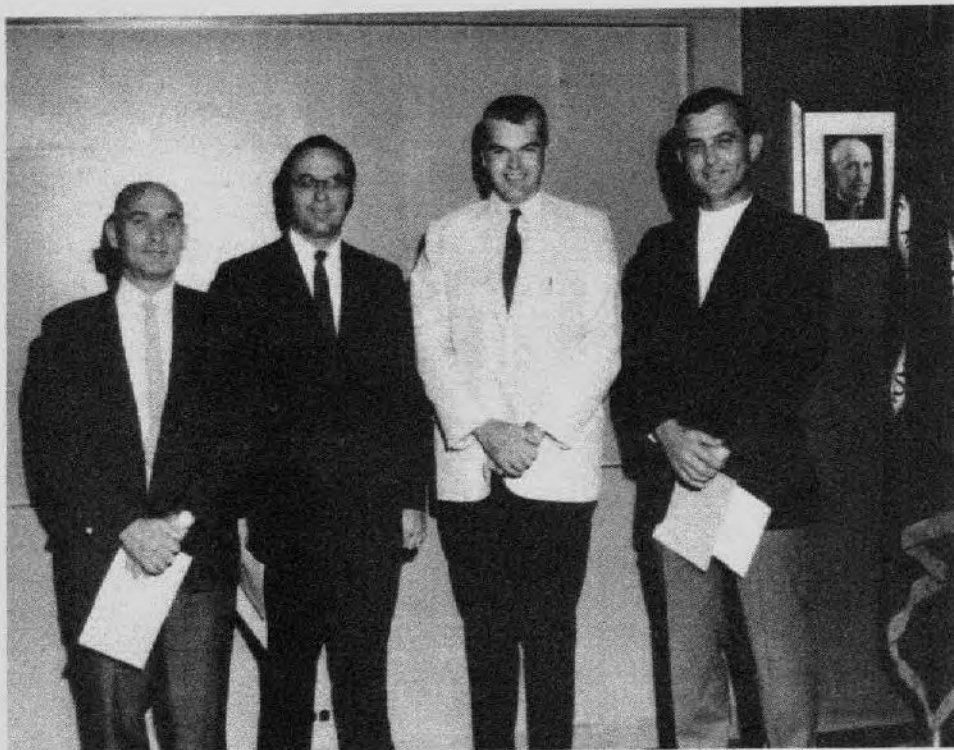
A native of San Francisco, Mr. Giovannetti earned his B.S. degree from Santa Clara University, and the M.S. degree from Stanford University in Mechanical Engineering.

Mr. Giovannetti and his wife, Lucille, make their home in San Jose with their four children, Richard, 19; Mark, 15; Dean, 10; and Lisa, 5.

Benjamin H. Beam who was recently assigned as Assistant to Mr. Giovannetti will carry on the management responsibilities of the division office as Acting Chief of the Research Facilities and Equipment Division during Mr. Giovannetti's absence.



A CASH AWARD . . . for a suggestion which has resulted in both tangible and intangible savings was presented recently to Larry C. Meritt (left) of the Physics Branch. Mr. Meritt proposed the use of time clock controls on the liquid nitrogen cold traps which are wired in a series and set so that the cold traps can be filled during off-duty hours. With this system research scientists can start experiments as soon as the work day begins. The idea greatly increases the reliability of filling the cold traps and has been incorporated as a permanent part of the shock tube system. Morris W. Rubesin (right), Chief of the Physics Branch, shares a look at the award check during the presentation.



INVENTION AWARDS . . . were presented to Ames research scientists by the Director, Dr. Hans Mark (second from right), during a recent ceremony. A \$600 award was shared by (l to r) Lester Feinstein, Materials Research Branch, and Ronald J. Hruby, Electronics Research Branch, for a "Microwave Flaw Detector." The inventors have developed a surface-crack detection system which is used to examine metallic surfaces with a non-contacting probe. The system observes the growth of flaws during fatigue or fracture tests. Hubert C. Vykukal (far right) was awarded \$500 for an "Articulated Environmental Hard Suit." This invention pertains to a space suit made of hard non-flexible material, and more particularly to a low-resistance, low-leakage, high-mobility suit that may be pressurized over five pounds per square inch. Dr. William J. Kerwin, who retired from the Center last month and was not on hand for the ceremony, received \$1000 for three inventions which relate to Active RC Networks.

Ames Managed OFO Ready for Launch

The Orbiting Frog Otolith (OFO) is one of two spacecraft scheduled to be launched on a single Scout vehicle from NASA's Wallops Station on Monday, August 31.

The Frog Otolith Experiment was developed and tested by Dr. Torquato Gualtierotti of the University of Milan, Italy, while he was a resident research associate at Ames. Dr. Gualtierotti is the OFO Program's principal investigator and Ames manages the experiment package.

Also on board the solid-propellant Scout will be the Radiation Meteoroid (RM) spacecraft to demonstrate and evaluate improved instrumentation and to gather near-Earth data of scientific interest.

Two male bullfrogs will be monitored in OFO for about five days alternately in the weightlessness of space and during periods of partial gravity created by spinning them up to 50 revolutions per minute, producing a one-half g acceleration condition.

Through microelectrodes surgically implanted in the vestibular (inner ear) nerves leading from sensor cells in the otoliths of the bullfrogs, scientists will be able to study for the first time the electrical response of the otolith sensors during hours of weightlessness.

Data from the five day experiment will provide information about the adaptability of the vestibule in the inner ear (which controls balance) to a sustained weightless environment as well as its response to acceleration.

NASA's Office of Advanced Research and Technology is conducting both basic and applied research to determine how the vestibular organs of man function, both on Earth and in space. A number of disorders have occurred in men and animals during short periods of weightlessness in aircraft and during longer periods in spacecraft, among them disorientation. This is attributed to the vestibular system which in turn influences vision and balance.

A frog was chosen as the space flight specimen because the otolith system of the frog is similar to that in man; its size permits small packaging for spaceflight; and it is amphibious and therefore capable of surviving in both an air environment while pre-launch surgery is performed and in water during flight.

The RM spacecraft has two experiments -- the Radiation Experiment and the Meteoroid Experiment.

SPARCS Success

Another successful SPARCS (Solar Pointing Aerobee Rocket Control System) launch on Aerobee 4.200 was recorded recently according to Ames Project Manager Q. Marion Hansen, Chief of the Vehicle Guidance and Control Branch.

The solar experiment on 4.200 was a design verification unit for Sky Lab, sponsored by the Naval Research Laboratory. The instrument is a high resolution spectrograph designed to obtain extreme ultraviolet (XUV) spectrums at absolute solar positions on the solar disk. The flight was judged a success because this was achieved.

During the flight the experiment success was endangered when an apparent failure occurred in the Pointing Reference System (PRS). However, a backup system designed by the SPARCS Project team compensated for the PRS failure by displaying a TV image of the Sun to the experimenter on the ground and a special ground command link biased SPARCS to point to the desired positions on the solar disk.

SPARCS performed as designed; Sun acquisition was achieved within 25 seconds after the jets were allowed to control the payload. The fine pointing stability was the normal 2-3 arc-seconds peak-to-peak in pitch, and less than 0.1 degrees peak-to-peak in roll, but was less than 0.5 arc-seconds peak-to-peak in yaw. This was the third successful flight for SPARCS insert 104, and because of its undamaged recovery it will be refurbished for another flight.

AMES OFO STAFF

Members of the Ames staff working with the OFO program are: Robert W. Magers, REE Branch, Experiment Coordinator; John A. Ferandin, Research Instrumentation Branch, System Engineer; Edmund J. Devine, Electronic Instrument Branch, Engineering Technician; and Pearl L. Bailey, Research Instrumentation Branch, who worked with Dr. Gualtierotti and developed the microelectrodes. Following the launch Mr. Magers and Mr. Ferandin will monitor the flight of the OFO from Mission Control at Goddard.

Room 134
Admin. Mgt. Building
Phone 2385

The Astrogram

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Editor Dot Evans
Reporters NASA Employees

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Personnel Corner

The Civil Service Commission announced recently that effective November 1 agencies may no longer use the written Federal Service Entrance Examination (FSEE) on a pass-or-fail basis to promote or reassign Federal employees into positions which now require the test.

The change is in line with the Government's improved merit promotion program.

Men and women first applying for Federal employment in jobs filled through the FSEE must still pass the test, however, unless they have a grade point average of 3.5, have a sufficiently high score on the Graduate Record Examination, graduate in the top 10 percent of their class, or complete 36 weeks of employment as a cooperative education student.

Under the changed policy, agencies may use the FSEE -- without a passing score -- only in combination with other measuring methods such as interviews, appraisals of potential, and evaluations of experience, training, and performance. The plan is expected to contribute to quality staffing by permitting agencies to make a well-rounded assessment of employee abilities and personal qualities which are important to success in a particular position.

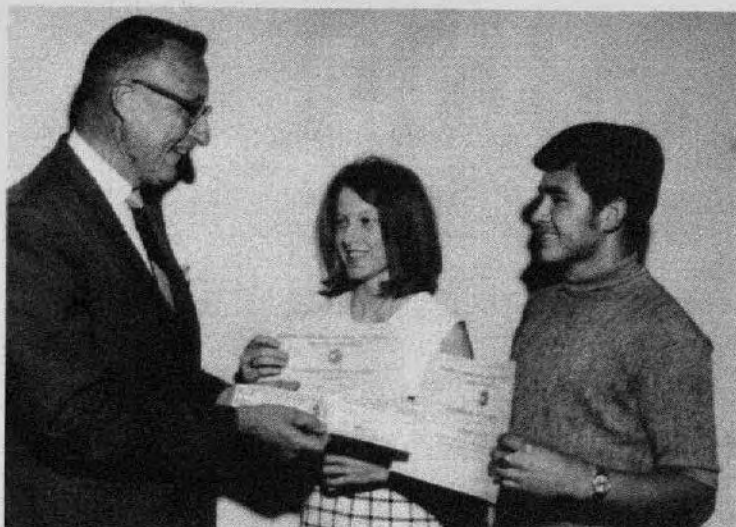
Opening advancement opportunities to lower grade employees who might have been screened out by the passing-score requirement will also help achieve the goals of the Government's upward mobility program.

The plan will also help ease reduction - in - force situations by giving agencies more flexibility in reassigning employees.

All occupations which presently require the test will be affected. These occupations are: Safety Management (GS-018 classification series), Personnel Administration (GS-201), Personnel Staffing (GS-212), Position Classification (GS-221), Salary and Wage Administration (GS-560), Public Information (GS-1081), Writer and Editor (GS-1082), and Technical Writer (1083).

Special Discounts Offered

FORTUNE MAGAZINE . . . is being offered to Ames employees on a special introductory basis of 21 issues for \$14.75, or 29 issues for \$19.95. In addition to the low rate, a 20-page compilation entitled "Fortune's Guide to Personal Investing" is being included for this year's readers. For details contact Dan Mason, 298-5433 or 294-7909.



SAVINGS BONDS AND CERTIFICATES OF RECOGNITION . . . were presented by Harold Gerdes (left), Chief of the Employment Branch, to (left to right) Kathy Hay (Environmental Biology Division) and Jose Villa, (Large-Scale Aerodynamics Branch) for outstanding meritorious achievement and progress during their participation in the N.Y.C. Summer Program at Ames.



N.Y.C. SUMMER PROGRAM . . . Award winners (right to left) Patria Untalan, (Library Branch) Basil Guruwaiya (Research Instrumentation Branch) and Virginia Guruwaiya (Biotechnology Division) receive certificates of Recognition signed by Dr. Hans Mark, Ames Director, from their N.Y.C. counselor, Mike Burke (left).

NYC Awards Assembly at Ames

An awards assembly was held August 12 at Ames for the Neighborhood Youth Corps Summer Program students. Five students, of the thirty-eight participating in the program, were honored with certificates. Two of the five also received \$25 Savings Bonds. The honors were awarded for outstanding meritorious achievement.

The two Savings Bonds were presented to Kathy Hay, who worked in the Environmental Biology Division, and Jose Villa from the Large-Scale Aerodynamics Branch. They were given certificates signed by Dr. Hans Mark, Ames Director, which stated; "In grateful recognition and Appreciation of Service to the National Aeronautics and Space Administration during the summer of 1970."

Basil Guruwaiya, Research Instrumentation Branch, his sister, Virginia Guruwaiya, Biotechnology Division, and Patria Untalan, Library Branch, were awarded certificates identical to those awarded the Savings Bond winners. The awards were given for outstanding meritorious achievement and progress in the work done at Ames by the students this summer.

Patria Untalan attends Andrew Hill High School in San Jose during the school year. The other four students attend Overfelt High School also in San Jose.

The assembly began with an introduction by Mike Burke, N.Y.C. Summer Program Counselor. Mr. Burke expressed his appreciation to the students for the definite contribution they made by assuming the responsibility given them. He said the

choice of the five honorees was an extremely difficult one, because of the great effort and progress made by all 38 of the students.

Harold Gerdes, Chief of the Employment Branch, was then introduced by Mr. Burke. Mr. Gerdes presented the Savings Bonds and certificates to Jose Villa and Kathy Hay.

The presentation of the certificates to Basil, Virginia, and Patria was made by Mr. Burke.

MR. BURKE HONORED

Mr. Gerdes, on behalf of Ames, presented Mr. Burke with a certificate of appreciation for his contribution to the N.Y.C. summer program. Maria Martinez, R.F.F., representing the 38 students who had participated in the program also presented Mr. Burke with a gift expressing their "thanks" for his efforts throughout the program.

The certificate received by the five award winners was an adaptation of a NASA Service Award which had been revised for the occasion by one of the students in the program, Ralph Lopez, R.F.R.

"THANK YOU" NOTES

"I wish to express my appreciation to my friends for the clever and useful gifts and for the superb retirement dinner. It could not have been nicer. Thank you all so much.

J.S. (Turk) Therkindsen "

Walter J. Krumm (Propulsion Systems) would like to extend his appreciation to each and every one of the many friends who gathered to wish him a fond farewell and who contributed so generously toward his beautiful gifts.

JOGGERNEWS

. . . by Jim Woodruff

Four Joggernauts completed the Fort Baker 15-mile handicap run, over the hills just north of the Golden Gate, on July 29. Ted Passeau came in 73rd, Vito D'Aloia 77th, Jim Woodruff 94th, and Roger Hedlund 108th.

Bruce Castle and Ted Passeau ran the Belmont Marathon, from the ocean below Half Moon over the hills to Marine World, August 2. Their times were 3:46:27 and 4:06:50, respectively.

The Joggernaut team came in 33rd out of 41 in the 72-mile, seven - man team relay race around Lake Tahoe on August 8. Ted Passeau, Bruce Castle, John Arvesen, Vito D'Aloia, Jim Woodruff, Jim McClenahan, and Paul Sebesta ran the baton around the lake in less than ten hours. Roger Hedlund gave support and was ready to run.

SOFTBALL

. . . by Grantland Wheat

The superstitious Instrumentals were zonked by an RFE whammy 13-0 on August 13. The heavy-hitting RFE team also conjured up some voodoo magic in the field, holding the I's to only four paltry singles.

The Fighting Pumas gained a second-half tie for first with I's by pounding TGD 17-3 on August 11. The Pumas and the I's meet August 25 to decide the second-half champions.

Final second-half standings were:

	W	L	Pct.
Mighty I's	4	1	.800
Fighting Pumas*	4	1	.800
TGD	2	3	.400
Aero	2	3	.400
RFE	2	3	.400
Space Science	1	4	.200

*First - half champions!

Ames Airings ... by Jeanne Richardson

If you find yourself eating duck soup in the cafeteria within the next few days, you can be sure it's fresh. Ames was adopted, not long ago, by a lonely, but determined duck. Reports have it that our new mascot, evidently a lost pet, flutered its way across the Bayshore, Route 85 and up Moffett Boulevard in search of an appropriate new home. Reliable sources say that the guards at the gate were understanding about our mascot not having the appropriate sticker attached to to the appropriate spot. They must have been, because next day our mascot had taken up the traditional mascot stance in front of the Administration Building. However, he was promptly assualted by BOB RICHARDSON (Security), and two maintenance men. The three, in the name of NASA, tried to catch our mascot. Our hero, of course, realized the proud flying reputation he now represented and with the extreme handicap of clipped wings, managed to evade his pursuers. A motorist, passing by, noticed the situation and offered his car in the chase. With four men and a car after him, our hero succeeded in making it to the safety of the bushes. Having spent some time in the pursuit, the men gave up. At last report, our mascot had taken up his stance in the safety and shade of the Data Reduction Building.

Bet you didn't know you were working within close proximity of an historically-famous political figure. Well, almost. THOMAS B. FRYER's (Electronic Research Branch) great, great grandfather Thomas Hart Benton was Missouri's first senator in 1821. He was selected by John F. Kennedy for inclusion in "Profiles in Courage" and was a foremost proponent of westward expansion. Mr. Fryer and his wife Ida, just returned from a four-week trip to St. Louis and a tour of the southern states, during which they visited a few monuments connected with Mr. Fryer's famous ancestor.

Of particular interest to the Fryers was the Jefferson National Expansion Monument. This St. Louis monument is dedicated to the country and under the jurisdiction of the National Park Service. The Park Service was very interested in obtaining part of Mr. Fryer's collection of letters of Thomas H. Benton for their new museum. Also of interest to the Fryers was the Hermitage, once the home of President Andrew Jackson. Thomas H. Benton was closely associated with Andrew

Jackson's political party.

The Fryers also visited Florida, including the NASA Space Center at Cape Kennedy. This, they said, was the high point of their trip.

While FRANK HAMAKER (Materials Research) was in the hospital recuperating from an emergency appendectomy, his wife, Charlotte, took advantage of the situation and called to share her husband's latest accomplishment. Frank took first place in the B Division of the San Bruno Chess Tournament recently. There were a total of 221 participants in the open tournament, and four divisions.

While chatting about her husband Charlotte proudly let it slip that her eldest son, Charles, was on the winning team in the National Tiddlywinks Contest. Several colleges participated, but the team from Mass. (Charles attends Antioch between contests) overpowered all opponents.

Charlotte also mentioned that their daughter, Francis, and her husband are in the Fiji Islands with the Peace Corps working as teachers. (Well, the whole family can't be talented). According to Francis, children in Fiji are very interested in obtaining pen pals from the U.S. If you know of someone interested in a Fiji pen pal please have them write to:

Mrs. Francis Perry
Box 1094

Suva, Fiji Islands

You must write "Islands" after Fiji, or you will get a Japanese pen pal, probably an irate Japanese postmaster.

WALTER J. KRUMM (Propulsion Systems) was honored with a retirement luncheon at L'Omlette Restaurant August 4. 78 of his friends were there to wish him farewell and present him with a specially designed silver tie clip, a rod, reel and tackle box. The tie clip has the NASA and MAD insignias on it, only such a tie clip could do Walt's ties justice. Walt and his wife, Sally, plan to move to their property in Oregon eventually. For now however, Walt may occasionally be found finishing up projects in his old office at MAD.

On July 25 the social event of the year was held at the home of Mr. and Mrs. GEORGE EDWARDS (TU). The members of the "12-Foot Wind Tunnel Alumni Association" and invited guests joined in the annual celebration of the "Summer Saltes." The weatherman aided in providing a beautiful day, the festivities com-

FAST-RITCH SOFTBALL

... by Jim Myers

Mt. View "B" League action saw NASA soundly defeat a fine Hewlett Packard Owls team by the score of 12-4. This evens our record at 2 - 2.

Behind the brilliant pitching of Bob Corbett, NASA was unconquerable. Heroic Bob Bell led the attack with four big RBI's. Also contributing were superstars Mike Green, Emmitt Lampkin, and Roger Hedlund, each slamming tremendous home runs.

The fielding gem of the game was provided by Bob Holmes when he lunged, catching the ball while running into rightfielder Lampkin.

	POS	AB	R	H
E. Lampkin	RF	3	2	1
B. Ganzler	SS	3	1	1
M. Green	1B	3	4	2
R. Hedlund	CF	3	3	2
B. Bell	C	3	1	2
J. Myers	3B	2	0	2
S. Kanally	LF	4	1	0
B. Holmes	2B	4	0	1
B. Corbett	P	3	0	0
Totals		28	12	11

2B Roger Hedlund, Jim Myers

3B Bruce Ganzler

SUMMER BOWLING

... by Dennis Riddle

The summer bowling league has completed its season! The final team standings are:

TEAM	WON	LOST
Dirty Rugs	45	15
Stars	33	27
Number Ones	30	30
Vikings	30	30
Bowl'n Bums	23	37
Raiders	19	41

Trophies will be presented to the members of the first and second place teams at a Pizza Banquet on Sept. 1. Also receiving trophies will be Hank Cole, Division A high handicap series (700) Dennis Riddle, Division A high handicap game (279); Bill Gilwee, Division B high handicap series (672); and Glenn Carle, Division B high handicap game (264). We will let the "most improved" bowler trophies (men and women) be a surprise.

I thank all those who bowled for making this summer of bowling great.

menced at two o'clock with the traditional tapping of the beer keg. A number of the younger attendees enjoyed the pool until the banquet was served.

WANT ADS

The Astrogram's ad section is provided as a personal, non-commercial service to Ames employees. Advertiser must be identified by name, extension and organization. The name may be left out of the ad but is needed for records. Ads must be submitted in writing to The Astrogram, N-241-4, by Thursday, a week before publication. The advertiser's home telephone number must be provided as a point of contact except in carpool notices.

AUTOMOBILES

For Sale-1966 Ford 4-door Sedan, good transportation car, \$100. John Miller, 736-2696.

For Sale-1967 Ford Mustang, fast back, blue, 289-V8, P.S., auto, transmission. Has trailer hitch and tach. very clean, \$1500, 294-7347 after 5 p.m.

For Sale-1969 VW, perfect condition, make offer. B. Gideon, 243-2480.

HOUSING

For Rent- in Los Altos, 3-bedroom, 2 bath home with large family room, park-like setting, 10 minutes to Ames. Call R. Munoz, 941-3589.

For Sale or Rent- 2-story, 4-bedroom, 2 1/2 bath home, immaculate condition, 2 1/2 years old, prime location with view. Walk to schools, park, shopping, future college, landscaped professionally. 6 % FHA assumable loan. Lease with option to buy. \$33,900 or rent @ \$300 per month. 1629 Butano Drive, Milpitas. 263-1683

MISCELLANEOUS

For Sale- Dax Sectional sofa walnut legs, brown wool upholstery, \$100. Call 736-9203.

For Sale- Doll House, 2 - story with lights in each room. \$15, call after 5 p.m., 248-3640.

For Sale- RCA 19 inch black and white portable TV, with stand and headset. Excellent condition, \$35 call 296-8559 after 5:30 p.m.

For Sale-Mare in foal, 5 month filly at side \$1250, 2 year filly \$800. Show saddle, Keystone - 13" seat. \$275. Call 266-6802.

For Sale-Oil paintings for sale August 30, 48205 Conifer, Fremont, 656-6325.

For Sale-Camper on two wheel trailer, two bunks, table, working space and storage units, \$150, call 736-5894 after 4:30.

For Sale- One tenth membership in flying club, 1967 Cherokee 140, Palo Alto based, call Bruce Kelley, 282-8245 after 4 p.m.

For Sale-Westinghouse Laundromat, side load, good condition \$35. Glazed Chintz skirted dressing table, painted kidney shape, wood swing arms, 1 drawer, lined draperies to match, \$15 and \$10 respectively. Call 323-1180.

For Sale-Keesond puppies, \$85, AKC papers, champion line, shots, good watch dog and pet, 30-50 lb. fullgrown, related to Husky and Samoyed. Ready for new home by Sept. 14 (5 weeks old). Earl R. Keener, 525 Pomeroy Avenue, S.C., 241-4459.

For Sale- 1970 Honda SS-125 excellent condition, used 3 months, \$340, Helmet \$15, cash. Call 272-0878.

For Sale-Part Poodle pups for sale, mixed colors, \$5 each, 736-2621.

Found-Commerative medallions in Ames parking lot, Call 968-3344.

Wanted- Transportation, my summer guest, an English cond from Yorkshire, needs a ride to return her to Washington, D.C. by September 7, 1970 (even a part of the way will help). Please call Kathleen Johnson, ext. 2573, I work in FS, 210-10, and my home phone is 408-294-7858.

Wanted-Telescope, Dynascope RV 6, will pay \$115 if good condition, call 263-0795.

Free- German Shepard mixed puppies, 3 months old, two females, free to good home. Call 328-0414.

For Sale-IEEE/IREE magazines for sale, 1946-1965, \$4 per year. Call 243-8963.

Foothill Geology Semina

The Evening Division of Foothill College will offer a seminar course in basic lunar geology this fall, entitled 35x Directed Readings. The class will meet one evening each week and may be taken for credit or non-credit (audit). The course is open to anyone who has had an introductory geology course. Registration is September 10 at Foothill.